



National Centre of
Excellence in Desalination
AUSTRALIA

STRATEGY 2021





Australian Government
Water for the Future



Murdoch
UNIVERSITY

Murdoch University is proud to be the Administering Organisation of the National Centre of Excellence in Desalination, working in partnership with Australia's foremost desalination and water research institutions to lead national research and build national capacity and capabilities in desalination.







Context

Strategy 2021 aims to provide clear direction for the National Centre of Excellence in Desalination Australia (NCEDA) for the next 10 years.

In February 2011, the Board, Committee Chairs and staff took time to consider the long term future of the Centre. Based on those deliberations, this Strategy was approved by the NCEDA Board in April 2011. Annual Business Plans aligned to this strategy will show how the Centre will make progress within this strategic framework.

By 2021, we aim to be financially sustainable and internationally recognised for our quality of research, commercialisation of ideas and development of our people. Success will be indicated by Australian desalination know-how being highly sought for water solutions around the world.

We want to make things happen. Fresh water means life – we want to see affordable, environmentally sustainable desalination widely available for people everywhere.



The Centre's Strategy builds on the existing research strategy

The NCEDA's Strategy 2021 builds upon the Centre's research mandate and its research strategy detailed in the *Australian Desalination Research Roadmap*. While the mandate and the *Roadmap* provide guidance for research, this document provides an overarching strategy for the operation of the Centre.

The research mandate upon which the Centre's funding is provided is:

- To optimise and adapt desalination technology for use in Australia's unique circumstances;
- To develop suitable desalination technology for use in rural and regional areas; and
- To efficiently and affordably reduce the carbon footprint of desalination facilities and technologies.

The *Australian Desalination Research Roadmap* was developed in consultation with the research community and desalination industry in 2010. The vision for desalination technology in Australia as described in the *Roadmap* is:

Efficient and sustainable augmentation of traditional water sources to provide security against the natural variability of rainfall and potential future impact of climate change.

The Centre's founding strategic objectives have been developed from the goals outlined by the Australian Government Department of the Environment, Water, Heritage and the Arts in its *Funding Guidelines*.

These are:

- To lead world research in energy efficient desalination technologies;
- To provide facilities to researchers and industry to support joint development by academia and industry of new desalination technologies;
- To commercialise resultant new desalination technologies;
- To build national capacity and capabilities in desalination research and industry within the broader context of total water solutions;
- To promote increased public support for alternate water sources; and
- To become a self sufficient research centre based on strong industry partnerships and sound commercial principles and practices.



1 Values

These are our key values – the attributes and resulting behaviours that we hold worthy above all others.

1.1 The importance of water

We seek to enhance respect for water as it sustains all life through healthy people, food production and the natural environment. We constantly seek ways of increasing the sustainability of water production, through reducing energy consumption, increasing use of renewable resources and minimising environmental impacts of technology and operations.

1.2 Respect, integrity and trust

We value and respect the people in our Centre, in our members' organisations and our clients and seek always to bring out the best in everyone as we face challenges together. We aim to encourage a significant sense of ownership over the Centre's existence by all the people employed by or associated with the NCEDA.

We act with honesty, seeking always to develop good relationships with organisations and people based on trust and respect. We seek strong collaboration between our members and with other research institutions, industry and the community.

1.3 Excellence and impact

We are committed to the highest quality of practice in research, operations, and administration. We value relevant outcomes-based research and practice that makes a real difference in the industries and communities we serve.

1.4 Global outlook

We maintain an international focus in all we do which includes applying Australian water solutions for developing nations.



2 Our Vision

The Centre will be a global leader in the delivery of sustainable water solutions through excellence in desalination research, practice and knowledge transfer, producing new technologies, new knowledge, and new wealth for Australia.

3 Our Mission

Delivery of efficient and sustainable augmentation of traditional water sources through desalination to multiple water markets providing security against the natural variability of rainfall, the potential impact of climate change and the variable quality of multiple water sources.

4 Our Strategic Intentions

Our strategic plan is exercised through five high level strategic intentions:

1. Leading Research;
2. Services to Industry;
3. Community Engagement;
4. Capacity Development; and
5. Financial Viability.





4.1 Leading Research

The Centre leads collaborative, world-class research in close engagement with industry to address real needs in industry and communities. Excellence in research is the foundation that underpins all our activities. To support our research, we operate a world-class desalination research facility to develop, test and improve desalination technology and systems.

Long-term outcomes	Strategies to achieve outcomes	Short-term deliverables
The NCEDA effectively administers research funds on behalf of Government and industry	Attract world class research projects through competitive funding rounds Expedite project commencement	Complete 50 funded projects by 2016 90% of Project Agreements in place within two months of award
Research is undertaken at a leading research facility	Establish an operating Desalination Research Facility at Rockingham by 2011	Achieve 80% utilisation of the Rockingham Desalination Research Facility by 2014 Achieve self-funding at the Rockingham Desalination Research Facility by 2014
The Centre is recognised internationally for the quality of research	Active promotion of the Centre Encourage quality papers to be written by NCEDA staff, Principal Investigators and PhD candidates Actively pursue collaboration with international universities and research organisations	The Centre is cited in local and international media and journals 100 times each year by 2014 Produce 50 high-impact articles and research papers each year by 2016 25% of projects include international partners by 2014
Research funded by NCEDA makes a difference	Regular review of the Roadmap to ensure it continues to be relevant	First review of Roadmap 2012
Commercialisation of research outcomes	Investment process outcomes result in benefits	Project progress presentation and critical review in 2012 Excellence in research results in early adoption by industry



4.2 Services to Industry

We undertake provision of specialist consulting and contract research services leveraged from our research and pilot scale capacity and capabilities.

Long-term outcomes	Strategies to achieve outcomes	Short-term deliverables
Recognised capacity for excellent contract research	Assemble resource database from Partner Organisations and promote capability to industry	Complete 5 contract research projects by 2014
Recognised consultancy capability in desalination practice	Develop specialist consultancy capability leveraging Partner Organisation skills and capacity aligned with Centre research activities	Complete 5 consultancies by 2014
Translate research outcomes for industry evaluation and application	Regularly conduct high quality industry workshops	Two workshops per year from 2012
Increase industry led research	Engage with industry in research projects	Have 50 active collaborations with industry by 2016





4.3 Community Engagement

The Centre engages strongly with our community at all levels through effective communication, education, training and knowledge transfer.

Long-term outcomes	Strategies to achieve outcomes	Short-term deliverables
The NCEDA is internationally recognised as an authoritative voice to comment on all aspects of desalination	Construct a knowledge database and develop sound policy	Develop and implement a national and global communications strategy by 2012
Improve public acceptance of desalination	Active promotion of desalination including use of authoritative scientific and engineering information to media and interest groups Engage a media and communications resource	Have a positive impact on the public perception of desalination in Australia by 2016 as measured by market research In place and operating effectively by 2011





4.4 Capacity Development

We share our passion to build Australia's desalination capacity by attracting the brightest and most capable people into our activities and encouraging career choices in water solutions using desalination.

Long-term outcomes	Strategies to achieve outcomes	Short-term deliverables
Increase number of graduates with specialist skills in desalination	Promote greater alignment and synergy between centre capability and capacity and course offerings at partner organisations with an initial focus on leveraging the physical infrastructure of the new facility at Rockingham	Honours degree topics in desalination – get current benchmark and make for meaningful increase by 2015
Increase number of postgraduates in desalination	Provide supplementary and full scholarships to encourage postgraduate interest	40 postgraduate students participating in desalination-related research across Australia by 2016 and 100 by 2021
Increase number of desalination companies employing PhDs	Engage companies through NCEDA membership to provide a career path to employment	NCEDA sponsored PhDs are offered employment before completion
Improve industry capability	Develop a roadmap for industry capability development Establish industry membership of the Centre by 2011 Recognise and promote research by industry independent of NCEDA	Convene a workshop with industry by 2011 5 industry members by September 2011 Establish database of independent R&D by 2012
Increase number of companies developing international opportunities	Engage companies through NCEDA membership and links with waterAUSTRALIA and Austrade	5 new industry partners have started exporting Australian desalination know-how by 2016



4.5 Financial Viability

We actively pursue our financial viability through developing a variety of income streams to fund research and operations.

Long-term outcomes	Strategies to achieve outcomes	Short-term deliverables
Excellent Governance of the NCEDA	Develop a concise reporting format for Board and stakeholders to measure progress against the Roadmap, this Strategy and annual Business Plans	Format drafted by mid 2011 and formalised by 2012 Develop annual Business Plans consistent with this Strategy by April of each financial year for Board approval
Ensure long term and diverse funding sources	<p>Develop methods for achieving returns from long term investment in the industry</p> <p>Leverage skills developed in operating the Rockingham Facility</p> <p>Continue to attract Government funding in the medium term</p> <p>Commercialise intellectual property developed from Centre projects</p>	<p>Establish by 2011 a Foundation to attract donations to support long term financial sustainability of the Centre</p> <p>Develop a model for Contract Research and Consulting Services by 2011</p> <p>Establish a case to seek a further 5 year commitment of Federal Government funding and extension of WA Government support by 2012</p> <p>Negotiate two Licence Agreements for the commercialisation of Centre IP by 2016</p>



National Centre of
Excellence in Desalination

AUSTRALIA

Murdoch University
Dixon Road, Rockingham, Western Australia 6168

www.desalination.edu.au